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CLAIMS:

1. A method of distributing timing information across a packet network, the method comprising:

at a master component, generating timing signals at predictable intervals using a clock reference of a given frequency, and broadcasting or multicasting the timing signals to a plurality of client components over said packet network, preserving the timing signal intervals; and

at each said client component, receiving said timing signals and determining the intervals between successive signals, applying a clock recovery algorithm to said determined intervals to recover in substantially real time the original clock frequency, and synchronising the frequency of a local clock of the client component to the recovered frequency.

2. A method according to claim 1, the method being used to distribute timing information between various components of a telecommunication system coupled together via a packet network.

3. A method according to claim 2, wherein said components include one or more components coupled to TDM networks/links.

4. A method according to claim1, wherein one or more of the components is coupled to a T1 or E1, T3 or E3, SONET or SDH link, performing a data conversion function between the T1 or E1, T3 or E3, SONET or SDH data format and the packet network data format.

5. A method according to claim 1, the packet network providing a backplane of a telecommunications gateway.

6. A method according to claim 1 and comprising including in packets containing a timing signal, a priority marker, and upon recognition of such packets at routers/switches of the packet network, forwarding them with the highest possible priority.

7. Apparatus for enabling the operating clock frequencies of a plurality of components, coupled to a packet network, to be synchronised to the clock frequency of a master component also coupled to the packet network, the apparatus comprising:

means at the master component for receiving or generating a clock signal having a clock frequency, and for generating from said clock signal, timing signals at predictable intervals;

means at the master component for broadcasting or multicasting the timing signals to a plurality of client components over said packet network, preserving the timing signal intervals; and

means at each said client component for receiving said timing signals and determining the intervals between successive signals, for applying a clock recovery algorithm to said determined intervals to recover in substantially real time the original clock frequency, and for synchronising the local clock frequency of the client component to the recovered clock frequency.

8. A gateway of a telecommunications network, the gateway comprising:

a plurality of components each operating at a local clock frequency, one of the components, the master component, generating or receiving a reference clock signal having a given frequency; and

a packet network backplane for communicating packet data between said components,

the master component having means for generating from said clock reference a stream of timing signals at predictable intervals, and means for broadcasting or multicasting said timing signals, preserving the timing signal intervals, to other components operating at said local clock frequencies via said packet network backplane, and the receiving components having means for synchronising their local clock frequencies to said reference clock frequency by analysing the intervals between received timing signals.

9. A gateway according to claim 8, wherein at least one of said components is a TDM line card, coupled in use to a TDM link.

10. A gateway according to claim 9, wherein at least one of the components is be a TDM line card coupled to a T1 or E1 link whilst at least one other component is a TDM

line card coupled to a T3, E3, SONET or SDH link, the gateway performing up and down conversions for data received and sent via the links.